ABSTRACT OF THE DISCLOSURE

A paper-like sheet discriminator has reference rollers for detection of a thickness of a paper-like sheet and a detection roller opposing the reference rollers. The paper-like sheet is passed between the reference rollers and the detection rollers and its thickness is detected from a displacement of the lever. Wavelength components less than a specified wavelength are extracted from a signal indicative of a thickness of the paper-like sheet passing through the respective thickness detection sensors and appearance positions on the paper-like sheet are determined at which the extracted wavelength components being less than the specified wavelength and having amplitude either not less than or less than a constant value appear. The thus determined appearance positions are collated with precedently stored appearance positions so as to discriminate genuineness/spuriousness of the paper-like sheet.